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The mother who stamps her foot and crossly tries to force cod liver oil upon her child is encouraging negativism — the desire latent in every human being to revolt against what he is told he must do. The child though at first objecting merely to the method of presentation finally develops an aversion toward the oil itself. In sharp contrast is the success of the mother who conveys the impression that "here is something good" which Baby *may* have, not *must* have. (Preceding advertisements in this series have dealt with the negative attitudes, on the mother's part, of distaste, over-sympathy, etc., and with other practical aspects of "cod liver oil psychology" which frequently interfere with clinical success.)

HOW TO GIVE COD LIVER OIL

FEW mothers realize how vital it is that cod liver oil be given to their babies at an early age—one month to two weeks after birth. This is of primary importance inasmuch as the incidence of rickets is greatest during the first six months of life. Starting cod liver oil at an early age has the further advantage that the very young child takes it without protest and, once the habit is formed, will usually continue to accept it for several years as part of the daily routine. Particularly if the oil is given after meals, the child soon feels that the meal is not complete without it.

Graduated Dosage

The dose to start may be measured in drops (but administered from a spoon so as to accustom the child to this method of feeding) and gradually increased until 3 teaspoonfuls are given daily. Some physicians prefer to include the cod liver oil in the milk formula and find that if this is done at an early age the child does not like the milk *without* the oil. Allowance in dosage must be made for oil that clings to the bottle.

Proper Approach Essential

As the accompanying pictures illustrate, proper psychological approach, similar to that used in the prevention and treatment of anorexia, is the secret of administering the full dose of cod liver oil. But even the "spoiled" child can be taught to take the oil. Among the helpful measures are, keeping the oil cold, administering it from a glass spoon, measuring it from a tiny bottle (to appeal to the possessive instinct), giving it with fruit juice or honey, keeping the spoon separate from other utensils so that the odor will not permeate the latter, and giving an oil free from rancid taste and odor. Being prepared from fresh healthy livers rendered immediately after the catch, Mead's Standardized Cod Liver Oil not only is palatable without flavoring but also is of minimum acidity, a factor increasing its tolerance.

Mead's Cod Liver Oil Fortified With Percomorph Liver Oil has all the advantages of cod liver oil but may be given in much smaller dosage. Ten times richer in vitamins A and D than U.S.P. cod liver oil.

MEAD JOHNSON & CO., Evansville, Ind.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

THE JOURNAL OF SCHOOL HEALTH

Devoted to the interests and advancement of school health service and instruction.
Your participation by membership is solicited.

Vol. IX MARCH, 1939 No. 3

HOW TO IMPROVE DENTAL CONDITIONS IN THE UNITED STATES*

HENRY F. VAUGHAN, DR. P.H.†
Health Commissioner, Detroit, Michigan

May we express the hope that dentists will increasingly participate in the deliberations of the American Public Health Association. We are concerned here not primarily with the technical features of dentistry, but rather with the part which the dentist, the oral hygienist, and the technician should assume in the health services of the community, created to improve the well being and happiness of children. The close association between oral hygiene and the problems of nutrition and health education is self-evident. Today, it seems appropriate to discuss the ever-changing trend of health-promotion machinery, the smooth and complete functioning of which is dependent upon dental participation.

The alert public health administrator is ever conscious of the fact that his program must be fluid, changeable, and readily adjusted to factors which are beyond his control. As one bit of evidence may we cite the virtual obliteration of locality as a point on which to differentiate between urban and rural health programs. In the horse and buggy days, when the laborer on the southern cotton plantation or the cow puncher of the western plains was limited in his activities to his immediate environment, there grew up both a rural and urban health picture. This was clearly demonstrated during the days of the Great War when the raw recruit from south of the Mason and Dixon Line and west of the Mississippi (excepting the three Pacific Coast states) suffered the ravages of mumps, measles, pneumonia, and other communicable diseases when herded together in concentration camps. He had lived in an atmosphere sterile of infection, and had experienced little opportunity to come in contact with his urban cousins who from childhood had been exposed to the various germ substances. You may recall that in the preparation of a map of the United States, spotting thereon the army camps as they were geographically located, there seemed to be no reasonable order among the cantonments of high and low mortality. For example, at Camp Sevier at Greenville, South Carolina, the death rate was high. A few miles

*Read at the annual meeting of the American Public Health Association, Kansas City, Mo., October 28, 1938. Published by consent of the Association.
†Dr. Vaughan is a Past President of the American Public Health Association.

north of Charlotte, Camp Wadsworth had a low death rate. In Georgia one would find Camp Gordon, at Atlanta, with a low death rate; Camp Wheeler, sixty miles away at Macon, with a high death rate. The high and low death rate camps were scattered in a more or less hodge-podge fashion throughout the country. When we rearrange our map so as to depict, not the location of the camp, but the area from which the raw recruits were drawn, we find a totally different picture. The camps of the high death rates were in the southern plantation states and among the great plains of the west.

The automobile, the bus, cheap railroad fares, and a better economic situation soon erased this health picture. With the possible exception of the backwoodsman and farmer who live deep in the mountain ravines, people now enjoy a close association with the business and social attractions of our cities both large and small. The American Public Health Association, through its Committee on Administrative Practice, has even seen fit to abandon its two Appraisal Forms, one for urban and the other for rural districts, and publish a new revised, enlarged edition which is equally applicable to city or rural county. We find the tropical dysenteries imported in our modern states, malaria spread by berry and fruit pickers from Florida into Michigan, the incidence of scarlet fever increasing in the rural south, while diminishing in the urban north. Within the boundaries of a single state such as Tennessee, we discover the residual diphtheria in the isolated mountain areas.

Our industrial revolution has attracted the fisherman from the distant lakes and the sugar and cotton grower from the distant state to the centers of industry. The depression has in many instances reversed this flow of humanity, conveying the diseases of city life back to the more primitive communities. The advertisements of the motorbus owners act as a barometer which directs the ebb and flow in human transportation. Public health becomes less and less a problem of the community in which we reside. Our neighbor's health becomes increasingly a more important factor in determining our health.

There are other trends which must be considered in planning our health services. In our first adventures in sanitation, concerned as we were with water purification, sewage collection and treatment, and the general removal of those conditions in our environment which were both a nuisance and a definite health menace, we approached our problems with the view of serving the masses by means of a comparatively few engineering projects. It followed, quite naturally, that when we became concerned with problems of nutrition and the unshackling of our child population from the physical and mental impediments which retard their normal growth and development, we turned again to procedures which function

on a mass basis. Programs for diphtheria protection, smallpox vaccination, tuberculosis case finding, the discovery of dental and nutritional defects were instituted in our schools, largely due to the fact that here already existed an institution where large numbers of children could be readily reached. We soon woke up to the fact that it was a grave mistake to wait until children were of school age. The discovery of abnormalities and their correction would better serve our child population through a preschool program. Better still, our preventive action should be stepped back into the prenatal and infancy periods, especially to avert nutrition deficiencies which contribute to dental disease. It is during the formative years of child life that habits are created which serve us a lifetime. Encumbered by ill health, the handicapped child of school age suffers a distinct disadvantage. There exists then a dire need for advancing all phases of our health education program so as to reach our objective at a time and place where the greatest good will be done. Furthermore, our schools are maintained to educate the youth of the land, not to investigate and alleviate conditions which have developed in the home. May we not conclude then that our health program, which must be built upon a foundation of health education, should be centered in the home, and that all homes throughout the land, whether urban or rural, should be considered in the same light. This inevitably brings us to the answer of a rather pertinent question—whose responsibility is the public health? The answer is that it belongs in the home and squarely upon the shoulders of the parents whose obligation it is to provide every advantage that modern science has approved in the interests of the health of the growing child.

Now, quite appropriately, we may inquire as to through what channel or channels can the home secure these advantages. Here again, the answer seems obvious. It must be through those professional groups which are qualified and licensed to provide the professional services, namely, the family physician and the family dentist. Immediately, we must provide a corollary for this statement by adding that the professional service must be available to all alike irrespective of the family financial situation, irrespective of the size of the pocketbook. It must be provided in such manner that the physician and dentist will obtain fair compensation for their services.

Too many dental hygiene and school health services concern themselves merely with the search for and the elimination of defects. Routinely, we canvass the same schools, the same grades, the same children, and year after year discover that about seven out of ten of the school children are in need of dental care. We must change the parents' attitude.

Pain should not be the motivating force that takes the child to the dentist. Dental service should be sought while there is

still no outward display of tooth-imperfection. We should promote an interest in buoyant health, in a satisfaction that the child has good clean teeth free from early decay.

The central figure in teaching dental health should be the family physician and dentist, but unfortunately all too few dentists are interested in childhood dentistry, and many physicians and dentist do not have the patience nor the technique with which to serve their young clientele. The W. K. Kellogg Foundation, through its interest in the promotion of the health and happiness of children in seven rural counties of southwestern Michigan, appreciating the major part which the participating physician and dentist must play in the health program, has for several years made available postgraduate facilities for the 300 physicians and dentists who serve in these counties and an intensive two-weeks review in a university or teaching center, augmented by occasional lectures before the local societies and demonstrations in the dentists' and physicians' own office. This has awakened a significant interest in preventive medicine.

In analyzing the needs of this group of cooperative dentists, Emory Morris of the W. K. Kellogg Foundation, feels that since the majority of the dentists have been out of school for at least ten years, they should all have an opportunity first to review the newer technics in all fields of dentistry; second, to contact operative and surgical technics relating to deciduous and permanent teeth in children; third, to achieve a better understanding of growth and development and the individual differences of children; and fourth to get an understanding of modern educational technics because the great difference between curative and preventive dentistry is that the latter demands an educational technic while the former depends primarily on salesmanship.

Northwestern University, the Forsyth Infirmary in Boston, the Guggenheim Clinic in New York, were pioneers in providing post-graduate instruction for dentists from rural Michigan. The W. K. Kellogg Foundation, realizing the need for continuous dental education, made a five-year grant of $110,000 to the University of Michigan to develop a school of graduate and postgraduate dentistry. The demand during the first year was so great in all fields of study that this year an additional grant of $250,000 to be matched by a Federal grant, was made to erect an entirely new building to house and make available to the dental profession an opportunity for continuous study.

Assured of the cooperation of an alert group of dentists, there remains the problem of health education, whereby the parent becomes aware of his interest in his children's health and takes the necessary steps to see that the child visits the dentist's office. The tools of health education are many and varied. They may be summarized as: first, those included in a program of general health

education wherein, through the medium of the printed or spoken word, or through visual implementation, the ideals of oral hygiene, including nutrition, are conveyed to the parent in simple words which he can readily comprehend. Carry to these people a picture of the value of a full and wholesome life, filled with the enjoyment and blessings which may be ours, thanks to the science of modern dentistry and medicine. Of course, printed words, talks before Parent-Teacher associations, social groups, business clubs, radio dramatization, and the like, will not satisfy the needs in every instance. There are those lethargic parents who require a certain amount of individual prodding, and it is in these cases that the second phase or individual health education must be employed. Here, the nurse who has received public health training on a university plane, serves admirably to convey the newer knowledge of disease-prevention and health-promotion into the individual home. If she is successful in her work, she will stimulate a parental attitude toward the conservation of the health of children. It is the friendly visit of the public health nurse which convinces the mother that the child of susceptible age should be protected against smallpox and diphtheria, that the children of families living in areas of high tuberculosis mortality should periodically receive a tuberculin test and a chest examination of the positive reactor, that the family diet will be so arranged as to avoid glaring deficiencies in nutrition which contribute to tooth decay, that there will be a constant alertness to the practice of good health habits and a willingness to utilize the technical services available through the office of the family physician or dentist.

When we were youngsters we thought of the dentist's office as a place of refuge for the alleviation of acute pain. Today, it is a part of the health education program in the schools, in the area in which the W. K. Kellogg Foundation participates, for the child to spend an afternoon in the dentist's office, learning something about the equipment he uses, discovering what the dentist can do to keep the mouth and teeth in good hygienic condition. We should teach the public that the office of the family physician and dentist is a sort of house-of-health from which flows an ever-increasing amount of service to keep us in good health;—prophylactic dentistry, diphtheria protection, periodic health examination, etc.

We would not suggest that excellent health programs are not organized by school systems. We should not subtract from the excellency of standards which have been established and the high degree of attainment where enthusiastic teachers and nurses have devotedly advanced the cause of health. On the other hand, too frequently parents are inclined to neglect home responsibility under the false delusion that health service is an obligation of the school and can be more readily cared for by our educational authorities.

There is a definite parental responsibility of which the home cannot be relieved.

One of the prime purposes of a school health service is to prevent the spread of communicable disease. Contagion can be more readily controlled in schools if parents but inspect their children more carefully each morning before starting to school. The child who shows evidence of illness at ten o'clock in the morning in school, in most instances would show the same signs at eight o'clock, before he left home. The damage that a measly child or one a carrier of some pathogenic germ-substance can create in a crowded school building at mid-morning, is too well known to every health man to require elaboration. The child with communicable disease would have the opportunity to spread his illness to numbers of children with whom he has contact in the schoolyard or in the building. After all, most conscientious parents give at least a cursory examination of their children's appearance in the morning before starting for school. Clean ears, clean hands, and clean clothes are expected. This same examination should include attention to the evidences of disease, and the child who complains of a headache or a sore throat or who has a rash or eruption, should be kept at home until the mother is sure that these signs do not mean the beginning of measles, scarlet fever, or diphtheria. There is, of course, the child who feigns illness in order to escape going to school, but his number becomes less each year because the schoolroom of today teems with interest, and it is the unusual child who does not look forward to his day as a student.

Contagion spreads fast and strikes hard. The physical defects grow slowly and are not generally as spectacular in their manifestation. The preschool child gradually develops abnormalities of tooth, ear, sight, or, even more serious—heart or lung. The crippling influence of these physical defects may last a life-time, and so in their aggregate are generally more debilitating than the acute communicable diseases. Their prevention is of prime importance not only to the individual child but to the community health standing. Again, the responsibility rests squarely on the shoulders of the parents, and cannot be transferred to the school authorities or even to the health department. The family dentist as well as the family physician must form the foundation on which is built our health services. These professional men of the future will, in the true sense of the word, become family health counselors; they will combine in their office both an educational and a service program.

With regard to dentistry, assuming that the interest of the dentist in childhood and preventive work has been stimulated, and further assuming that the educational program has been built into the fabric of the local community, there remains the provision for two types of dental service: Examination and treatment.

Children in early life should annually pass in review before the dentist so there may be discovered those in need of remedial service. Such an examination provides an excellent opportunity for child and parent education. In rural Calhoun County, which constitutes one of the newer units of the Kellogg Foundation program, in the first year of participation 39 per cent of the school children were examined. In the second year the per cent had increased to 57.6 and in the third year it reached 73.6. Among the 3434 preschool children from two to five years of age, 25 per cent were examined during the past year. Of course, for this group a much more extensive educational undertaking is indicated, and it requires a longer time to carry the essentials of this program through to every farm home. That as many as one-fourth of the preschool children have been examined is certainly significant. Morris finds that the per cent of children requiring dental care in rural Michigan counties varies from 50 per cent for the two-year old group up to 84 per cent for the eight-year old child. Through the impetus of its far-reaching educational program the Kellogg Foundation reports that in rural Branch County 44 per cent of the children were given complete dental care during the first year. In the second year the per cent increased to 51 of all children between two and eighteen years of age. Significant is the fact that for the seven and eight year old children, 80 per cent received complete dental care.

The Foundation has provided a subvention for the dentists, providing funds when, in the dentist's judgment, the parents are unable to meet the cost of the examination or the remedial service. It has been found that for every dollar provided by the Foundation through the local county health department, more than $5 has been paid by the family. During the first year of the dental program the rural health departments contributed toward dental care for 48 per cent of the children. This degree of financial participation has steadily decreased until now the contribution does not exceed 20 per cent of the sum being paid locally for the dental care of children. This shows a definite willingness on the part of parents to secure preventive service, when available at reasonable cost. There is undoubtedly an increasing willingness on the part of the laity to secure the advantages of preventive medicine. One of our greatest needs is to place individual health protection on a basis wherein the average family will appreciate that dental and medical care is as essential to human comfort and welfare and to the growth and development of children as is food, shelter, clothing, and the other essentials of life. May we not look forward to the physician and dentist of the future as a true practitioner of preventive as well as curative medicine and dentistry around whom will be built an ever-increasingly large part of our health education program.

HOW SHALL WE TEACH HEALTH?

ROSS L. ALLEN, DR. P.H.
Formerly Ass't Editor, Journal of Health and Physical Education

The wide acceptance and growth of health education in schools, and the emphasis placed on education in the field of public health offer convincing and sufficient support to the belief that health is teachable. Assuming, then, that the teaching of health is possible, how shall we educate for health to insure the most desirable outcomes in the knowledge, habits, and attitudes which characterize a wholesome and salubrious personality? We can find our answer in methods and procedures in education which have already been used extensively and successfully.

Any method which brings about a desired change in the conduct of an individual may be judged as a successful procedure There have been established innumerable educational methods which will be classified presently. The choice of effective method depends upon three factors: (1) the nature of the individual to be taught; (2) the facilities and equipment at hand; (3) the content of the material to be taught. An elaboration of these criteria for choice of methods will be offered presently.

The emphasis which is placed here on method is not done with ignorance of the fact that "all of the experiences, activities, or services in school or elsewhere which promote the development of interests, attitudes, skills, habits, and meanings favorable for healthful living should be considered integral parts of the health program".[1] It is merely made for purposes of delimitation. Further, the writer realizes that the discussion of methods in health education offered cannot be exhaustive in a single effort of this kind. With these limitations in mind, let us consider our first criterion for choice of method,—the individual to be taught.

Age and Mental Development. The necessity for adapting the presentation of information to the comprehension of the student cannot be overemphasized. Too often we find instructors using either technical terminology or mature vocabulatory which is beyond the comprehension of their pupils. This is equally true in teaching adult groups. If the radio broadcasts have to be adapted to the level of a normal child's intelligence of thirteen to seventeen years, it is equally true, and more important, that the vocabulary and procedures of health teaching should be understandable to the group which is being taught.

"The experiences should require a mastery of a minimum of scientific terminology, enough to handle the ordinary health processes intelligently."[2]

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[1]Daniel P. Eginton, "Progressive Principles of Health Education", **Journal of Health and Physical Education**, Vol. 6, No. 7 (September, 1935). Page 29.
[2]Eginton, Ibid. P. 65.

This thought provokes another suggestion;—do not use terminology or methods so simple that they are boring to groups having mature intelligence and experience. So often an instructor of a group will underestimate the individuals' capacities to assimilate advanced and technical knowledge and practices. Underestimating the mental development of a group is in error as much as overestimating the intelligence level of that group. All methods, then, must be evaluated on the basis of their comprehension by the learner.

"The facts regarding growth in ability to grasp concepts makes imperative the selection of materials (and methods) which are suited to the mental development of the child . . . It has been ascertained that average children do not adequately understand abstract nouns until about the age of 12 or 13 years . . . Children in the lower grades must be taught in very concrete terms, with pictures and with illustrations . . . The ability to generalize is indeed very feeble in young children of ordinary intelligence, and is often overestimated in teaching . . . They profit rather from specific instances seen and heard . . . Attempts to teach through generalized statements or through symbolic presentation of abstract ideas (as in dramatization) will be most useful with children in the upper grades; dramatization of concrete situations is successful with children of the lower grades."[3]

The age and mental development of the learners must be ascertained and the methods to be used in health teaching must be adapted to them if the procedures are to be effective. This criterion is not to be construed in such a way as to conflict with Turner's statement of principle that "It is necessary to develop health practices on the part of the child before he is old enough to understand the scientific reasons upon which these practices rest."[4]

Interest. Methods which do not consider the interest of the learners are practically useless. Most individuals want to *do* things for themselves; procedures which demand passive submission by the students to an onslaught by the teacher,—the over-use of the lecture method is implied—should be used rarely in most situations. Participation by the students should be an outcome of all pedagogical procedures. Let us consider, for example, the teaching of the principles of water purification in the high school hygiene class. This interesting topic may become so boring via the lecture method that ingenious devices will be necessary to rid the student of his lethargic state. On the other hand, have the students build a working model of a water purification plant, and

[3]**Health Education.** A Program for Public Schools and Teacher Training Institutions. N. Y.: American Child Health Association, 1930. P. 129, 130.

[4]C. E. Turner, **Principles of Health Education.** Boston: D. C. Health & Co., 1932. P. 91.

the instructor will be forced to the other extreme,—the necessity of holding in check and guiding the pupils' interests. And, what is more important, they will really *learn* the principles of water purification. Occasionally, we find it necessary to use such a method as "lecture" in teaching students; it may be necessary to augment the lecture with various interest-stimulating devices such as described by the writer in an earlier report.[5]

A valuable means of measuring whether the method being used is of interest to the learners is to note if the pupils desire to carry on further constructive activities or to widen their interests and use of other materials; that is, do the materials and activities have values which stimulate the child's further development . . . Are the inherent interests of the group developed and guided to realization? This is a matter which will depend to a large extent upon observation of the group being taught and the study of their real interests".[6] This essential criterion of interest is equally applicable to the learning situations of adults, and should never be overlooked.

Previous Training. The use of any new method of teaching in relation to methods used in the learner's previous training should be preceded by an intelligent decision as to the advisability of its introduction, and, if used, tact and patience should be practiced by the teacher in the early stages of its function in respect to student reactions. An interesting example of the effect of radical change in methods may be taken from the transition of the child from elementary to high school. A few years ago, the laboratory method was seldom, if ever, used in elementary schools. The students would be initiated to this particular method in general science, chemistry, or physics in the high school. The inevitable result would be an unnecessary waste of time and effort on the student's part in putting up and taking down apparatus. The essential aspects of the learning to be gained were neglected in an effort to follow the relatively unimportant details of preparation for the experiment. This is probably the reason that many science departments advocate demonstration of experiments by the instructor assisted by a few students in the early years of high school training. Such a procedure would insure against waste of time in the preliminary steps of an experiment, and would facilitate the learning of the principles demonstrated. It does not follow that the laboratory method should be abolished, and replaced by demonstrations; it is necessary that precautions be taken in the introduction of any new method, particularly in relation to the learner's previous training.

Learning in any educational experience should be progressive.

[5]R. L. Allen, "A Method of Teaching Community Hygiene to Junior High School Pupils". **Journal of Health and Physical Education.** January, 1931.
[6]**Health Education.** P. 124-125.

Subject material and experiences chosen in health teaching should be compatible with the individual's previous training and experiences. Overemphasis on review, or failure to take into consideration the present status of the student's knowledge, often lead to worthless repetition, which not only wastes time, but dulls the enthusiasm and interest of the learner. Thus an unfavorable situation for learning may be unintentionally produced by failure to appreciate the past accumulation of knowledge and experience of the learner. Preliminary tests of health knowledge, attitudes, and habits are important in the measurement of the present status of the "health intelligence" of the pupil. Although there is still much to be done in developing reliable and valid tests of this nature, we do have a few which are practical and will indicate to the teacher some objective basis for the level of health teaching at which to start. The following tests and scales have been used with some degree of success: (1) Gates-Strang Health Knowledge Tests;[7] (2) Pencil and Paper Tests[8] used in the School Health Study of the American Child Health Association; (3) Health Knowledge Tests[9] devised by Dr. W. E. Forsythe and Dr. Mabel E. Rugen; (4) Health Attitudes Tests[10] developed by Dr. E. E. Kleinschmidt; (5) Health Scales[11] for various age and grade levels by Dr. Marion Lerrigo and Dr. Thomas D. Wood; (6) Payne's tests[12] for grades four to eight; (7) Wood's Personal Health Standard and Scale[13]; (8) Orlean's and Sealy's achievement tests[14] in health; finally, (9) *Health Tests and Exercises*[15]. These published tests should be augmented by evaluation methods of a more subjective nature by the teacher. Turner suggests for the measurement of habits, (a) direct observation of the students by the instructor; (b) reports from health-habit questionnaires and the individual health-habit conference; (c) opinions of parents expressed in conversation with them; (d) questionnaires to parents. In regard to measurements of attitudes, he suggests that "Some indication of attitudes may be obtained from the reaction of pupils toward health as a subject of instruction and toward the development of health behavior. We may observe the attitude of pupils

[7]A. I. Gates and R. Strang, **Health Knowledge Test.** New York: Bureau of Publications, Teachers College, Columbia University; 1925.
[8]Raymond Franzen, **Health Education Tests.** School Health Research Monographs. New York: American Child Health Association, 1929.
[9]W. E. Forsythe and M. E. Rugen, "A Health Knowledge Test", **Research Quarterly,** Vol. VI, No. 2, May 1935. P. 105.
[10]As yet unpublished.
[11]Thomas D. Wood and Marion O. Lerrigo, **Health Behavior.** Bloomington, Illinois: Public School Publishing Co., 1928.
[12]E. G. Payne, **An Analysis of Instruction for Habits and Practices in Health and Accident Prevention.** Bloomington, Illinois: Public School Publishing Co., 1921.
[13]T. D. Wood, **Personal Health Standard and Scale.** New York, 1925.
[14]J. S. Orleans and G. A. Sealy, **Public School Achievement Test in Health.** Bloomington, Illinois: Public School Publishing Co., 1928.
[15]**Webster Publishing Co., 1808 Washington Avenue, St. Louis, Mo., 1931.**

toward the school nurse, doctor, dentist, family physician, the correction of physical defects within the class, cleanliness and sanitation of school building, and toward public health activities in the community."[16]

Methods, then, must be adapted to the present status of health development in knowledge, attitudes, and habits of the student. Methods used by former teachers should be taken into account in order that the student may be oriented in a new teaching situation without too much difficulty.

Continued in April Journal.

[16]**Turner Op. cit.** P. 282-284.

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Editorial Board;—Having consented to serve, the following members of the American School Health Association have been appointed to the Editorial Board of The Journal of School Health.

This will bring to the aid of the Editor direct and responsible advice by experts in various fields closely related to the health of school children.

Miss Maude A. Brown, State Board of Health, Helena, Montana.

H. D. Chope, M.D., Director of Public Health, Newton, Mass.

Miss Gertrude E. Cromwell, Supervisor of Public School Nursing Service, Des Moines, Iowa.

Miss Ruth E. Grout, formerly Director, Cattaraugus County School Health, Olean, N. Y.

George M. Wheatley, M.D., Pediatrician, Department of Health, Astoria, L. I., N. Y.

* * * * *

Measles;—We are all familiar with the efficiency of measles convalescent serum and placental extract in modifying or preventing measles if given before the fifth day after exposure. Jerome Kohn and his co-workers at the Willard Parker Hospital, New York City, however, describe in the December 24th issue of the Journal A. M. A. their success in modifying measles after it has reached the eruptive stage. Twenty-four children were treated, after definite Koplik spots had appeared, with convalescent serum intravenously. They believed the measles was modified in eighteen of the cases. It is worthwhile to know that convalescent serum intravenously may modify measles after it has reached the stage of Koplick spots. The life of a weak and debilitated child, or one who is just recovering from whooping cough or other infectious disease of childhood, or who has some associated acute or chronic illness may be saved by this knowledge.

The school physician and nurse should be prepared to guide the family to use medical resources. George M. Wheatley, M.D.

SPECIAL EDUCATIONAL QUALIFICATIONS OF THE SCHOOL NUTRITIONIST*

SOPHIA S. HALSTEAD, M.S.
Director, Division of Nutrition, Department of Health, Detroit, Michigan

The modern concept of a school health program is that it should be basically and fundamentally educational in character. We have passed through the stage of attempting to correct existing problems simply for the sake of ameliorating current distress. We have gone beyond the point of merely seeking out defects and potential defects and trying to do something about them. We are concerned at the present time with actually teaching people the reasons and the techniques for promoting positive buoyant health; with stimulating them to form those habits and attitudes which will have lasting, beneficial effects upon their future well being. Because education implies making changes in people in their relation to society, and because such changes take place as the result of activity on the part of the pupil, it is no longer possible to think of a health education program as something which can be talked about for an hour a week or one period a day. Unless the entire school organization—the physical setup, the curriculum, the class schedules, and the personnel—demonstrates the principles of good hygiene, we are going to fall short of our goal. In other words, we are interested primarily in the child and his environment, and only secondarily in the subject matter we may have the opportunity to present to him formally.

With the advent of health teaching as the successor to health preaching, the educational concepts involved place no small responsibility upon the shoulders of those persons who are concerned with programs of health instruction. No longer can we be satisfied to be merely technicians; to possess only a knowledge of subject matter in our own specialty. We must have that broad, cultural, and scientific background plus familiarity with teaching techniques, which will enable us to stimulate children and their parents to accept and practise those measures which have proved their value in promoting the welfare of individuals.

Twenty years ago, in line with other hygiene class procedures, the school nutritionist was interested chiefly in nutritional defects —in malnutrition which was far enough advanced to be easily recognized by the medical, nursing, and teaching professions. Her emphasis was placed entirely upon correction. Her success was measured in terms of the number of children who attained normal weight under her supervision. It took no particular skill, and only

*Read at the annual meeting of the American School Health Association, Kansas City, Missouri. October 27, 1938.

the most rudimentary knowledge of nutrition to weigh, measure, and advise underweight youngsters. In those days there was probably no need for outlining the special educational qualifications of any of the school health personnel.

Since we have broadened our view point, we realize that real health teaching requires the unification and integration of efforts and the cooperation of the entire school organization. Is it too much to expect each individual taking part in that program to appreciate the problems involved? The school nutritionist, to be effective, must be able to see her activities in relation to those of the classroom teacher, the lunchroom manager, the home economist and the physical education instructors. Lack of understanding of mutual interests can easily disrupt the best laid plans. The training and experience of the nutritionist should provide her with the ability to work with and through the various members of the school staff, in addition to giving her the scientific knowledge which she needs in her own specialty.

A nutritionist or dietitian, according to the membership eligibility specifications of the American Dietetic Association, is a person who has graduated from an accredited college or university, the curriculum of which has included chemistry, biology, social science, education, food preparation, nutrition, and institution management. In addition to this basic training, at least one year of supervised experience is necessary before the individual is considered professionally qualified to engage in any of the various types of nutrition work now open. There are persons with all gradations of these high standards, from the food faddist with no scientific training to the Ph.D. with years of experience behind her, who are willing and anxious to join forces with the health educators. But let us remember, the effectivenes of an educational program is dependent upon the abilities of all of the educators engaged in it. One inadequately equipped worker may, through inefficiency and lack of perspective, nullify many of the best efforts of an otherwise well trained staff. Because schools are expected to set teaching standards, the school health personnel should be chosen from leaders in the various health professions—not from their mediocre representatives.

As a minimum requirement then, let us say that the school nutritionist needs at least a bachelor's degree from a recognized curriculum of home economics and one year of supervised experience. The supervised experience should be in a field somewhat related to school health work. It should serve to enrich, clarify, and put to practical use the technical information acquired in college. If the individual is going to work with doctors, dentists, and nurses, it seems to me that a training period in a hospital is highly desirable, not from the standpoint of subject matter acquired but because of the point of view and the understanding

of human relationships which it gives her through close association with allied professions.

If the basic college courses of the nutritionist have not included enough education to provide her with a teacher's certificate, her graduate work should be planned to meet those requirements if she is to become an effective teacher. While she may not be called upon actually to teach classes, it is my firm belief that she should be qualified to do so when her primary interests are educational in nature. To be working in a school even in a consultant capacity, training in pedagogy is highly desirable if not obligatory.

In addition to these professional qualifications of the school nutritionist, there are certain personal characteristics which are valuable assets. Good health should certainly come first on the list since she must be a good example of the principles she preaches. With obvious nutritional defects herself, such as overweight or underweight, poor physical development, or lack of vitality, her teaching will be discounted by those with whom she comes in contact. Emotional stability and poise, because they indicate mental health, are characteristics which she must possess. The capacity to work well with all kinds of people in all walks of life is important for anyone, but for the nutritionist it is indispensable. Adaptability and ingenuity in making use of available resources is a decided asset. Sympathetic understanding of, and tolerance for, individual variations and difference is essential to success in dealing with human beings. And perhaps the most important of all is the desire for professional growth; the willingness to keep pace with developments in her own and related fields. There is no place in the educational sphere for the complacent, self-satisfied person who feels that she has "arrived" when she holds a diploma in one hand and a job in the other.

Nutrition is fundamentally important and deserves careful consideration in any health education program. Because it is particularly vital to the school child in his habit forming years, his activities and interests should be directed along those lines which will teach him how to eat to live. In order to accomplish such an objective, the whole school organization must function together. Weighing and measuring children should be discussed in terms of physical exercise in the gymnasium, extra curricular entertainments, the findings of the school physician, the selection and preparation of foods in home economic classes, and the choosing of lunches in the cafeteria. Without the whole hearted cooperation of these various services, we may find ourselves preaching instead of teaching.

The school nutritionist needs a mastery of her special field and an understanding of the objectives of education and the philosophy of the health program. She should be able to integrate nutrition education with the promotion and development of health attitudes and practices.

OBJECTIVES OF THE AMERICAN ASSOCIATION FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION*

N. P. NEILSON, *Executive Secretary*

In 1885, Doctor William G. Anderson, of Yale University, called together a small group of persons who met at Brooklyn, New York, and organized the American Association for the Advancement of Physical Education. The name of this organization was later changed to the American Physical Education Association. The Association included physical educators mainly from colleges and universities, turnvereins, Y.M.C.A's, and private schools. The organization developed rapidly so that by 1930 it had approximately 3,000 members.

During the years 1929 and 1930 a reorganization was effected. A new constitution was adopted, providing for representation on the Council from the various State Associations, and District Associations, as well as from the Sections in the Association representing various interests. The offices of the Association were transferred from Springfield, Massachusetts, to Ann Arbor, Michigan, and Dr. Elmer D. Mitchell became the Secretary-Editor. The "American Physical Education Review", first published in 1896, was replaced (1930) by two magazines—one written in popular style, the "Journal of Health and Physical Education," and the other more technical magazine called the "Research Quarterly." Under the new arrangement the organization continued to grow.

In 1894 there was organized in the National Education Association a Department of Child Study. A little later this department became known as the Department of Child Hygiene. A Department of Physical Education was organized in the N.E.A. in 1895. In 1924, the Department of Child Hygiene and the Department of Physical Education were combined into one department which from that time on was called the Department of School Health and Physical Education of the National Education Association.

The constitution of this Department made provision for an Executive Committee of seven members including a President, a Vice-President, a Secretary, and four additional members. It was the function of this Executive Committee to arrange a program for the Department in connection with the summer meetings of the National Education Association. The constitution also provided that persons attending the Department meetings were members of the Department while the meetings were in session. As soon as the meetings were over the Department had no membership. With no membership, no budget, and no magazines, this Department found itself severely handicapped.

*Presented before the General Session, American School Health Association, Kansas City, Mo., October 24, 1938.

As early as 1928, an attempt was made to have the American Physical Education Association merge with the Department of School Health and Physical Education of the N. E. A. Dr. William Burdick of Maryland, was appointed Chairman of a Committee to deal with Mr. Crabtree of the N. E. A. to see if a merger could be accomplished. There were two obstacles in the way. First, the N. E. A. required that members of a Department must also belong to the parent organization, and this would mean that all members of the A. P. E. A. would have to belong to the N. E. A. if the merger were accomplished. Second, many of the members of the A. P. E. A. came from the turn vereins, Y. M. C. A.'s, and private schools, and at that time felt there was no particular reason why they should join the N. E. A. The second attempt at a merger was made in 1932. Both of these attempts failed.

In 1936, Miss Agnes Samuelson, President of the National Education Association, came to the St. Louis Convention to address members of the A. P. E. A. in general session. The problem of the merger was discussed at a special luncheon meeting. A Committee was appointed to meet with Secretary Givens and President Samuelson of the N. E. A. in Chicago during the month of May. At the Chicago meeting agreement was reached, and later the A. P. E. A. Council was asked to approve of the merger.

Up to this time, all dealings had been with the parent organization. The Department of School Health and Physical Education of the N. E. A. had not been consulted. The problem was, therefore, taken to the Portland Convention in the summer of 1936. Here the Department voted favorably, and authorized its Executive Committee to act jointly with a committee of the A. P. E. A. to merge the constitutions of the two organizations. A special committee was appointed to draw up plans.

This special committee suggested the creation of three divisions, that is, a division of Health Education, a Division of Physical Education and a Division of Recreation. It was also suggested that the various existing Sections be assigned to these three divisions. At the Annual Convention held in New York City, the General Policies Committee of the A. P. E. A. and the Special Committee on the merger met jointly, discussed the problem, and recommended favorable action to the Council. The A. P. E. A. Council approved of the merger on this basis, and at the summer meeting held in Detroit, the Department of the N. E. A. and the N. E. A. gave their approval. Thus, on July 1, 1937, the American Association for Health, Physical Education, and Recreation, a Department of the N. E. A., came into being.

This new Department has the opportunity of exercising considerable influence in the fields of health, physical education, and recreation. Members of the Association have the opportunity of attending the National, District, State, and Local Conventions and

Conferences. The Association has a unique plan of organization in that both specialization and coordination of interest are provided for. Many sections have been organized, so that section programs in the various conferences will take care of special interests. Specific interests may be coordinated in the broader fields under the division programs, and the three broad fields may be coordinated through the general sessions at the conventions. Physicians, nurses, dentists, dental hygienists, nutritionists, health educators physical educators, and recreation workers may all exercise their independent and cooperative efforts in this newly organized department.

The constitution of this new Department provides for a democratic administrative organization. The Association has an Executive Committee, Governing Board, and Council. The Governing Board includes members of the Executive Committee, representatives of the six Districts, and three members at large. The Council includes members of the Executive Committee, Governing Board, and representatives from State Associations, Affiliated Organizations, and Section interests. In this organization, the fields of Health Education, Physical Education, and Recreation may each stand alone and may all stand together. Under the new arrangements, a National Convention will be held in April each year and a Department Meeting held each summer in connection with the N. E. A.

While it would be possible to indicate many specific objectives of the Association, perhaps all of these could be generalized into one broad objective. In general, it is the objective of the Association to build a profession so that this profession will be in a position to establish adequate programs of health, physical education, and recreation in the schools and in other types of social institutions. There is great need for the establishment of these programs. There is an especial need for the cooperation of all workers in the fields of health protection and health instruction. In the control of communicable diseases, the discovery and correction of defects, the hygiene of environment, the hygiene of instruction, in health instruction, and in accident prevention all of the experts are interdependent, and they must work cooperatively if our school health problems are to be solved. These workers need the help of each other, and need very much to know their common and their specific objectives.

To accomplish this general objective, in my judgment, the Association could well afford to do four things. One, increase its membership; two, streamline the organizations; three, publish and distribute materials and year books; and four, work closely with a number of national organizations.

The Association should appoint directors of membership campaigns in the six districts, in each state, and in each local unit in

every state. When this machinery is perfected, informational materials should flow out through this organization so that every person interested in the fields of health education, physical education, or recreation will have the opportunity of becoming a member of the Association. At a later date it might prove helpful to publish a bulletin, including the names, positions, and addresses of members of our profession. To build a strong profession means to have more power for much good in our chosen field.

There is great need for streamlining the organization. Up to the present time Sections have been organized around various interests but according to no logical plan. It has been suggested that some of the Sections be reorganized around generalized problems. The profession itself might agree on these generalized problems, and it is conceivable that the generalized problems would be identical in the three fields of health education, physical education, and recreation. To illustrate, each field is faced with the general problem of Administration, each field is faced with the general problem of objectives, and each field is faced with the general problems of program and the preparation of leadership. Once the Section and Division plan of the National Organization is perfected, the District Associations, State Associations, and Local Units should be encouraged to adopt the general plan. This would make possible coordination, on a National, District, and State basis, of the efforts of all people interested in a particular problem.

It is recommended that the Association publish and distribute from time to time materials, including year books. Rather than have year books suggested on the spur of the moment, the Association should appoint a Committee to develop a fifteen or twenty year plan for the publication of year books. Members of the profession could suggest more than one hundred titles for such year books. These titles suggesting content could be analyzed, perfected, and then arranged in logical order according to importance. The Council of the Association could then approve of a fifteen or twenty year plan for the publication of year books. Experts could cooperate in providing materials from time to time.

Being a department of the National Education Association brings to the Association special opportunities for cooperation with a number of other National organizations. A number of executive secretaries of departments of the N. E. A. have their offices at the Headquarters Building in Washington. Our Association is now in a position to cooperate with the various departments of the N. E. A., with the National Congress of Parents and Teachers, the American Legion, the American Public Health Association, and with a number of other national, governmental, and professional organizations. To secure their support of our legitimate objectives, and to lend our support to the accomplishment of their legitimate objectives will strengthen their hand and help us justify our existence.

EDITORIALS

The leading article in this Journal, "How To Improve Dental Conditions in the United States" by Henry F. Vaughan, Dr. P.H., brings emphatically to mind certain factors in health and in education which are little realized by any of us, and, even if realized, are not followed thoroughly through to a definite decision upon which action may be based.

One of these is that the extremely recent improvements in transportation and communication which have occurred within the last generation have strongly tended to make the United States an entity rather than a group of states, or a group of sections. We should realize that both in health and in education there are certain basic needs to meet, which should be the basic aim of health and education programs no matter whether the regions to which they are to be applied are east or west, north or south. Diseases pay little attention to state or regional division lines. Education as properly aimed at teaching how to *think* and how to *work* for self and community knows no boundaries.

The paper, too, emphasizes other things which we tend to forget or at least to ignore. A too parental government permits many parents to step from under their responsibilities to their offspring, and to try to pass over these responsibilities to government. This leads to a dangerous situation educationally and socially. It is an easy decline from handling over to a governmental bureaucrat responsibilities for the health and training of our children to handing over to him responsibilities for ourselves. Whatever the set-up for granting government aid in order that those lacking funds may secure adequate examination and treatment, provision must be made for the individual to have free choice of the physician or dentist who is to treat him or his child.

Dr. Vaughan, too, emphasizes the very apparent need for post-graduate training of physicians and dentists, if they propose to become actively engaged in educational work, in health work, or in any phase of community efforts towards the correction and prevention of disease.

There is emphasized too the corner stone of any thoroughly effective health program. Our first step towards health in the school was merely one of detection, efforts to find and to isolate children having communicable disease, and to find the physical defects in school children. The second phase was that of correction; efforts so far as possible to restore the children to a normal physical condition. Our third step, and the one which is receiving enormous emphasis during the last decade is that of prevention—the use of inoculations which will prevent the contraction of infection, and the building of healthful bodies which will make a satisfactory life possible.

All of these can succeed only if health authorities and educational authorities are able to carry on successfully an educational program which will convince parents and children, who in turn will soon be parents, of the sanity and need of the elements of the present day health program—immunization against infection, the removal of correctable physical conditions if such have been allowed to get a foothold, and a health education program that will become so ingrained in the habits and activities and decisions of our people that they may live happily and efficiently stand on their own feet in the land of their fathers.

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The January 1939 issue of The Phi Delta Kappan* is devoted practically entirely to papers and comments on various phases of safety education ranging all the way from safety as regards to automobiles, safety in bicycling, safety education in the high school, teacher training in safety education, to the relation of safety education to mental hygiene.

The leading editorial by Frank W. Hubbard is on research in safety education. Briefly he states that research workers have four problems ahead of them. (1) To help teachers and administrators select the "wheat from the chaff" of existing instructional materials in safety. (2) To define more clearly the areas in which safety instruction needs to be and can be made more effective. (3) To experiment with instructional methods and materials observing particularly the effect upon individual learners. (4) To develop methods of evaluating safety instruction.

He comments that much of our present safety education is negative. While some prohibitions are necessary, educational psychology emphasises the fact that to be effective education must be positive and constructive. He makes the comment "mass methods tend to be transitory and must be repeated periodically (as the Red Queen said to Alice, 'It takes all the running you can do to keep in the same place.')".

Much of this comment might be applied to large portions of our efforts in health training and instruction. There is too much "don't do this", "this is bad", and this is dangerous. There is too little of "this is the thing to do", "thus the way to do it," and "these are the reasons why." *The official national organ of the Phi Delta Kappa No. 2034 Ridge Road, Homewood, Illinois.

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ABSTRACTS

Terminal Disinfection;—At the Society of Medical Officers of Health an important discussion on terminal disinfection and the exclusion of contacts from school was opened by Dr. Duncan Forbes, health officer for Brighton (England). He pointed out that the persistence of anthrax bacilli in hides for years, and of

tubercle bacilli in dried sputum and dust for months, gave rise to the mistake that infection lived on in bedding, clothes, and the like. But the discovery of diphtheria carriers and of mild overlooked cases of scarlet fever and of carriage of infection by spray showed that apparently healthy carriers were the chief cause of the spread of scarlet fever and diphtheria, and the the part played by fomites was negligible. On these grounds, orthodox disinfection of mattressess and bedding was abandoned in Brighton in 1910 and spraying in 1921. The boiling of sheets, washing of blankets, dusting of bedrooms, and scrubbing of floors was substituted. Home contacts after measles have not been excluded from school at Brighton since 1922 as this did not prevent general infection of the school, and the excluded children played with and infected neighbors' children.

Dr. Andrew Topping said that terminal disinfection was a survival from times of complete ignorance of how infection was spread. We now knew that organisms responsible for infections were extremely short lived outside the human body, and that infection did not normally lurk behind picture rails or in the depths of a mattress, but is almost invariably due to carriers. But under certain circumstances microbes — for example hemolytic streptococci — could survive outside the body for considerable periods. Recent experiments at Queen Charlotte's Hospital showed that they could be recovered from dust. The moral was remove the dust. There was no better way than a liberal use of soap and water.

London Letter, Jour. A.M.A., Jan. 28, 1939, p. 346.

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Strong Bodies;—Children when they first enter school are not equally strong or sound of body any more than they are equally able of mind. In physique they may have met with many mishaps in the previous stages of their development. Every wise and fully prepared teacher will, on sight, and daily, make a physical as well as mental appraisal of her pupils, but in 1938 the school can go further by making use of specialized members of the staff for determining the bodily resources of its recruits and whether anything can be done for their betterment.

The mere finding of a body which is not so strong as we think it should be, or which is weak in some detail—of eyes, or ears, or other organs—is no benefit to any one. We may fail just here, and more than fail, for we waste our time and money, if nothing is done for the really serious physical faults which we find in our pupils.

In this business of making better bodies we have to hark back again to the home. We must have the help of the parents, but the school that is concerned with such bodies will have to take this into account. It may need to use its specialized personnel in the way of nurse or visiting teacher.

Given ample food and rest, strong bodies are developed by use. Muscular exercise begins before birth, and the vigorous use of the body is part and parcel of early education. This physical education once took care of itself, and is still the better for spontaneity and self direction so far as is possible, but we live in a complicated world, in which the child needs all too much of direction and supervision. Daily out-of-door activity, such as can be entered into with a maximum of benefit and pleasure, is still, as it has been for ages, a highly essential part of the curriculum for child development.

This business of education is then a twofold one, but in each of these fields the educator must not only plan and direct his work for the group, but the individual is always to be considered. This work of developing strong bodies is again a twofold function in that it depends partly on the classroom teacher and partly on special personnel. Above all, there should be some one in general charge who knows what is known about the body and how to keep it well and strong, sane and sound; who knows what the bus man, custodian, physician, nurse, physical educator, and classroom teacher can and should do, and how they can best work together to the end desired. We find supervisors of music and of art needful in the development of the pupil in these special fields so there is every reason why the modern school should have on its staff a director or supervisor in the technique of the important art of healthful living. Abstract of Developing Strong Bodies and Able Minds by James F. Rogers, M.D., from School Life, Nov. 1938.

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Gross Negligence;—Elsewhere in this issue (page 236) appears a summary of injuries due to Fourth of July fireworks in 1938. Last year, after a lapse of twenty-one years a similar analysis was presented because of the increase which was being shown by this form of injury. Again fireworks have been demonstrated as a serious menace to life and health; in fact, this year there were actually more individual accidents leading to death from fireworks than in 1937, in spite of the wide publicity given to the 1937 summary by newspapers and public-spirited organizations. The control of fire works must originate in the legislatures of the respective states. With the present day ease of transportation, only statewide laws can be considered adequate; even their effectiveness is endangered by adjacent states which may lack control measures. In some states, such as Pennsylvania, Indiana, and Missouri, the need for effective and enforced legislation is only too obvious. A repetition of the tragedies of 1938 can be construed only as gross negligence in relationship to a controllable situation. Journ. A.M.A., Jan. 21, 1939, p. 242.

Choosing Textbooks;—In Hygeia, Andress* emphasizes the following points to be kept in mind in the choosing of textbooks on health:

1. Are they scientifically accurate?
2. Are the mechanics of the texts hygienically sound?
3. Do they emphasize *doing* rather than memorizing and reciting?
4. Does the subject matter grow out of life situations?
5. Is the presentation of subject matter planned systematically through the grades?
6. Is the subject matter organized in "units of work?"
7. Is the vocabulary related to the various grade levels?
8. Do they conform in every way to the requirements of our best school readers?
9. Are they well illustrated?
10. Do they promote wholesome attitudes?
11. Do they encourage mental health?
12. Do they review briefly the lives of the heroes of hygiene and medicine?
13. Do they promote a scientific spirit?
14. Do they contain essential physiology and anatomy?
15. Do they correlate with other school subjects.
16. Do they deal adequately and fairly with the alcohol, tobacco, and drug problems?
17. Do they deal effectively with safety and emergencies?
18. Do they stimulate initiative and investigation?
19. Do they contain necessary pupil aids?
20. Do they help satisfy individual health needs?
21. Do they command the pupils' interest?

*Choosing Textbooks on Health, J. Mace Andress, Ph.D., Hygeia January 1939, p. 67.

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Tuberculosis Among Medical Students and Physicians;—Jennings* points out that fourth year medical students have each spent two weeks as clinical clerks in Glen Lake Sanatorium since 1925. In 1929 they were first questioned with regard to tuberculin tests given them before they entered the sanatorium. Of the first eighty-seven students questioned, 65 per cent had reacted positively, when tested at the students' health service at the university, to 1:1,000 dilution of old tuberculin. Beginning in the middle of November, 1930, the next 184 students were tested on the day of entrance and 66.3 per cent were found to be positive to the intradermal test. The range of positive reactors to tuberculin varies for the years 1930 to 1936 inclusive from 52.5 to 67.8 per cent. The average of 62.04 per cent among the 851 fourth year medical students is less than that reported among fourth year medical students in the eastern part of the country. The number of positive reactors

among the medical students of eastern schools increased in each year of the course until in their fourth year 98 per cent of them reacted positively. This steady increase is not necessarily confined to medical schools, but is probably true of any school at which the students' opportunities for infection must increase with continued residence among a large group of people. It is probable that the lower incidence among the University of Minnesota students as compared with that of the eastern schools lies in the fact that Minnesota's students, for the most part, come from communities less densely settled than do the students attending eastern schools. The possibility of tuberculous disease was taken into consideration from the first, and roentgenograms were made of the students' chests the day they started work at the sanatorium. The period here covered extends from 1920 to September 15, 1930. To the 670 in this group who had been here for training at some time during the ten years, questionnaires were sent early in 1932 in an attempt to ascertain the state of their health during the interval between receipt of this questionnaire and their sanatorium residence. Replies were received from 526. The replies disclosed that 267 of the normal group of 473 had considered themselves in good condition and had not troubled to have subsequent roentgenograms of their chests. Of the 206 who had had subsequent roentgenograms, 168 still had normal readings. Thirty others reported evidence of acute or chronic nontuberculous conditions variously diagnosed as bronchitis, bronchiectasis, emphysema and the like, but no evidence of adult tuberculosis. Ten per cent (fifty-three) of the students who came to the sanatorium showed deviations from the normal that might constitute possible evidence of tuberculosis when their chests were first examined. The answers to the questionnaire that was sent to these students from one to ten years after their period of instruction at the sanatorium showed that thirty-nine had had subsequent x-ray examinations. Twenty reported that their lesions had shown no change from the examinations made at the sanatorium. Four have since shown extension of their lesions and two of them have spent some time in a sanatorium as patients. Forty-seven of the fifty-three students in this group had shown no evidence of clinical tuberculosis subsequent to their graduation. There had been no deaths from tuberculosis among the 526 who trained at the sanatorium. Tuberculosis has never caused a proportionately large number of deaths among physicians. Physicians have always been more or less exposed to tuberculosis, but statistics do not show a high death rate among them, which seems to support the assumption that there is a relatively low morbidity rate. Journal, A.M.A., April 9, 1938, p. 1231. *Tuberculosis Infection and Morbidity among Medical Students and Physicians F. L. Jennings, Oak Terrace. Minnesota Medicine, February 1938, p. 102.

Home Environment in Relation to Behavior;—A detailed study of the home background of 110 well adjusted and 144 poorly adjusted children from a group of 409 who were under observation as they progressed from grade III to junior high school was made. With respect to IQ, socio-economic level, and nationality these pupils appeared to form a representative sample of the school population. Situations in which the maladjusted children appeared to have had a less favorable home environment than their better adjusted classmates were as follows:

1. A greater number of the parents of the maladjusted children were said to be in relatively poor health, indicating a less healthy and wholesome home atmosphere.

2. A larger proportion of them were from homes that had been broken by divorce, legal separations, and desertion, giving evidence of dissension and family unhappiness.

3. A greater number of their mothers were employed outside of the home, tending to reduce the amount of parental care and supervision.

4. A larger proportion of their mothers were under twenty years of age at the time of their birth, suggesting the possibility of less stability and interest in family problems.

5. A wide disparity between the ages of their fathers and mothers was more prevalent, pointing to a lack of congeniality and disagreement in management.

6. A much larger proportion of them had many brothers and sisters, thus opening the way to numerous problems in the complex interactions of the child-members of the family.

7. The majority of them had both older and younger siblings, necessitating more frequent yielding of personal interests, on the one hand to the domination of the older, and on the other to the pleasures of the younger.

8. The nearest-age siblings were less often exclusively of their own sex, suggesting the greater possibilities for misunderstandings and the arousal of antagonisms.

It is not unlikely that in the cumulative effect of these small differences in the home environments significant relationships to patterns of behavior may be found. Careful examination of the data with respect to the frequency with which unsatisfactory conditions operated conjointly suggests this conclusion. Combinations of two or more of ten complicating situations were of frequent occurrence among the maladjusted classes and infrequent among the well-adjusted. The daily experiences of the maladjusted classes often included four or more of these conditions, those of the well-adjusted rarely more than three and never more than four.

Martha Crumpton Hardy, reprinted from The Journal of Juvenile Research, October, 1937, Volume XXI, Number 4, pages 206-224. Abstract by E. E. Kleinschmidt.

Prevention of Accidents;—

I. Be sure that all of our participants have had a medical examination before entering into any activity program.

1. It has been found that the medical examination given in school is better than no examination at all, as measured by a decrease in the number of accidents, and days lost from activities when injuries do occur.
2. When an examination is given before entering physical education activities, as opposed to none, the accidents are reduced approximately 50% and the days lost 400%.
3. When the examination is given before entering physical education activities, and again during the school year, the accidents are still *further* reduced by 50% and the number of days lost is reduced by three-fourths.
4. When the examination is completed just prior to going to the squad, the accidents are reduced to 25% and the days lost by 300%.

II. Condition the body for participation in activity.

III. Develop personal safety habits and attitudes, so that the student will refrain from taking unnecessary risks in participating in physical activities.

IV. Care of the injured, which involves first aid treatment, the after care, and follow up service.

V. Provision of adequate equipment and adequate space for this equipment. A continued check on all equipment to see if it is serviceable and safe for use.

VI. Provision of adequate leadership, and if possible full time teachers in preference to part time or a substitute.

VII. Close supervision to all activities. Space should be allocated according to nature of activity and leadership available.

VIII. Activities organized so that the student may pass through a progressive skill series.

IX. The training of student leaders should be emphasized, and constant check of relative efficiency of student leaders be made.

X. Teachers must be safety conscious, and trained to recognize hazards, know how to prevent them where possible, and what to do when an injury occurs.

XI. The physical equipment should be carefully planned—proper lighting provided, sanitation, floor resilient and of such nature as to reduce slipping to a minimum, defects in equipment removed, etc.

XII. Last but not least, be sure that the equipment used by the students is hygienic and satisfactory for use and of such a nature as shall lead to safe participation in the program. From unpublished paper by Wm. J. Gallagher, Teacher of Physical Education, Buffalo School Department, Buffalo, N. Y.

NOTES

School Health Survey;—A state health survey of school buildings in seven counties (New Mexico) has been conducted by Dr. E. R. Godfrey, state health director. The survey shows that 75 out of 266 structures in these counties have doors opening outward; only 32 are in good physical repair; and 72 have approved drinking-water supplies. Poor lighting was found to be a universal fault, with only 25 schools having proper facilities in this respect. Fifty-nine schools were found to have inadequate toilet facilities and 65 have toilet facilities that meet state sanitary requirements. In one county, 9 out of 116 schools meet these requirements. One county topped the seven counties in having approved drinking-water supplies in all its school buildings. American School Board Journal, Feb. 1939, p. 82.

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School Medical Division;—The Board of superintendents (New York City) has announced the reorganization of the school medical division into a bureau for the promotion of better health among the city's school children. Changes in the structural setup are planned to raise the general level of teacher and pupil health. Under the new setup, the medical division will be known as the medical staff of the board of education. It will consist of Dr. Altman as chief medical examiner, four school medical inspectors, and two medical examiners. American School Board Journal, Feb. 1939, p. 82.

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Loose Milk;—Eating establishments in the county of Westchester may no longer serve their patrons loose milk for consumption on the immediate premises. The County Board of Health has adopted a regulation, effective January 1, 1939, which provides that milk to be consumed in restaurants, soda fountains, lunch rooms, diners, and all other eating places must be served in individual containers "filled and capped at a pasteurizing plant, creamery or bottling plant, approved under the provisions of the state and county sanitary codes." The new regulation, published in *Westchester's Health* for December 19, provides also that no drinks containing milk may be sold for consumption on the immediate premises unless the milk has been procured directly from a bottle, filled and capped at an approved pasteurizing plant, creamery, or bottling plant. Health News, New York State Dept. of Health, Jan. 23, 1939, p. 15.

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Why Don't You?;—A group of School Physicians and Superintendents of Middlesex County, Mass., had an enthusiastic meeting on November 30 at the Old Mill Dam in Concord. Superintendent Larrabee of Concord acted as Chairman.

REVIEWS

Play and Mental Health. Principles and Practice for Teachers. *John Eisele Davis, M.A.* New York, A. S. Barnes & Company, 1938. pp. VIII-202. $2.50.

The author of this outstanding contribution to the understanding of play and the relation to mental health is uniquely fitted by education and experience for the difficult task represented herein. Many years of clinical experience in directing the physical education and recreational program for the mentally ill in the Veterans' Administration Facility (hospital) has brought Mr. Davis to the realistic appreciation of the therapeutic importance of play.

Although the roots of the author's present study may be traced to the individual understanding of play as an instrument of personality reconstruction for the mentally ill, the present volume is particularly directed toward effecting a more significant mental hygiene approach and practice in schools.

The significance and meaning of play is scientifically developed throughout the continuum of developmental ages from infancy to senescence. The author has availed himself of the critical appraisal and suggestions of a number of outstanding psychiatrists who have appreciated the importance of furthering the recognition and espousal of play as a vital factor in personality growth and adjustment. Throughout the book one happily observes the integration concept which gives perspective and weight to the meaty content. This latter is subdivided into four chapters: "Play and Psychic Adjustment," "Play and Adjustment to the Outside World," "Play and Behavior," and "Happy Socialization." Each chapter is adequately annotated with well chosen biographical references. A discriminating index makes for facility in finding pertinent interests.

Although this book is of crucial importance to the physical educator, it is in no way less important to the classroom teacher, school physician, recreational directors, and all intelligent persons who are bent upon the sound understanding and utilization of the play motif in personality development. This book will long remain the first choice as a text in the education of those who are more or less responsible for furthering "play and mental health." **Frederick L. Patry, M.D.**

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Medicine In Modern Society, *David Riesman,* Princeton University Press, 1938, pp. 226, price $2.50.

"The layman is certainly interested in medicine. I rarely ride in a street car without hearing some persons talk about sickness or doctors, and the same thing is true in the case of social gatherings. In such circumstances, the doctor often hears the

most astounding statements from otherwise well-informed persons. Evidently their education is incomplete in matters that concern them very nearly, and about which they want to be informed. I believe the time has come to broaden the educational basis of our youth in high school and college by giving them survey courses in the history of medicine analogous to those given in the history of art. In the beginning, such courses are probably best given by broadly educated medical men, but in time there will no doubt arise a class of scholars not trained as physicians but as medical historians who will become the academic teachers in this field."

This book contains admirable material for such a survey course in the history of medicine. In Chapter 2 (page 17 of this book) entitled "Medical Progress—Early Steps" the author submits a list of "discoveries and advances of medicine since its beginnings". He makes no claim for this list being more than his own selection as he sees it. "The list, roughly chronologic, is as follows: Opium; mercury; cinchona-Peruvian bark (quinine); the Revolution in Anatomy; The Circulation of the Blood; Citrus fruits for Scurvy; Digitalis; Vaccination; Anesthesia; The Hypodermic Syringe; The Germ Causes of Disease; Bacteriology; the Transmission of Disease by Insects; Antisepsis; Antitoxins; X-Ray; Radium; Salvarsan-Chemotherapy; Blood Transfusion; Insulin; Liver Therapy; Allergy; Endocrinology; Psychoanalysis; Fever Treatment; Hormones; Vitamins; Viruses; Instruments of Precision."

Harold H. Mitchell, M.D.

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"Depression or No Depression";—Since 1930, month after month, a unique series of educational-to-the public advertisements have appeared on the first page of Hygeia. The sponsor's name, Mead Johnson & Company, has to be looked for with a magnifying glass, and appears only for copyright purposes. Not a product is ballyhooed. Instead, appears good, clean, convincing reasons, with choice illustrations, why mothers should seek pediatric advice *from* their physician.

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MEETINGS

The New England Health Education Institute meeting is to be held in Cambridge, Mass., April 21 and 22 at the Massachusetts Institute of Technology. Professor Clair E. Turner is in charge of arranging a program.

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The American School Health Association and the American Public Health Association, October 16-20, Pittsburgh, Penn. The headquarters of the American School Health Association will be at the Hotel Roosevelt. Members should make early reservations of rooms at this hotel.